Merck's reCalibration

By Chris Cain, Staff Writer

Merck & Co. Inc. has traditionally formed external academic partnerships with labs working on projects in areas of the pharma's direct interest. Now, Merck is expanding its early stage academic outreach by investing up to \$90 million over seven years to found the not-for-profit **California Institute for Biomedical Research**, which is focused on the translation of basic research into new medicines.

By doing so, the pharma is creating a halfway house between academia and pharma with the expertise to develop academic discoveries to the point at which they would be of commercial interest.

The California Institute for Biomedical Research (Calibr) is located in San Diego and hopes to begin collaborating with academics on 5–10 projects within the next year. It is the largest academic partnering initiative ever launched by Merck.

The institute plans to eventually employ 100–150 people and have 20 projects ongoing at any given time.

In return for Merck's investment, it has the first option to exclusively license work at preclinical proof of concept, which is defined as evidence of efficacy in a relevant preclinical disease model.

Calibr's founding director Peter Schultz told *SciBX*, "I started talking with Peter Kim about how to build this several years ago, but it gained momentum one to one-and-a-half years ago. We both agreed that academics do discovery well and pharma develops drugs well, and so we sought a better way to interface industry with academia. It has become increasingly hard for the two worlds to connect."

Kim is president of Merck's R&D division, Merck Research Labs, and is a member of Calibr's scientific advisory board.

Schultz, who will remain a professor in the Department of Chemistry at **The Scripps Research Institute**, said Calibr was set up as a not-for-profit institute outside of Merck so that academics will view it as an equal partner that can provide valuable early stage drug development expertise that complements an academic's own discovery efforts.

Calibr does not plan to start its own internal drug discovery programs. Instead the institute will choose projects from applications submitted by outside researchers seeking to discover and develop small molecules and biologics against new targets. Schultz said the development process at Calibr will include screening, medicinal chemistry, informatics, imaging and pharmacology.

He said those capabilities will set Calibr apart from academic institutes that have initiated drug discovery efforts in recent years.^{1,2}

"At Scripps we built a lot of screening systems for the academic drug discovery operation, but running a screen based on an idea is very different from getting a molecule where you understand its mechanism and behavior in animal models. The point of Calibr is not just to run screens but to develop an understanding of the biology of a drug. This is what the simple screening centers are missing, and it requires hiring people with expertise in early stage drug discovery," said Schultz.

Thus, Schultz will hire medicinal chemists, pharmacologists and informatics experts, about half of whom will be postdoctoral researchers. In addition to its own staff, Schultz expects Calibr to host visiting postdoctoral and clinical fellows to ensure close ties between the institute and its academic collaborators.

The institute will solicit applications for projects, which will be selected by a steering committee made up of Schultz, Kim and Christopher Walsh, professor of biochemistry and pharmacology at **Harvard Medical School**. Walsh is chair of the institute's scientific advisory board.

In addition to the scientific advisory board, Calibr will be managed by an external board of directors chaired by John Diekman, founder and a managing director of **5AM Ventures**.

"Schultz is good at picking projects. He has founded seven or eight companies, and he understands what it takes for a project to go from early stage to the clinic. He is incredibly impatient and practical. In the discovery phase things will move fast—or he will kill them," said Diekman.

5AM will not have rights to the projects; Diekman said he views the role of the board as

opening doors and offering strategic advice, and he does not intend to micromanage the institute. He also is chairman of **Ambrix Inc.**, which Schultz founded in 2003 with funding from 5AM.

James Schaeffer, executive director for external scientific affairs at Merck, said Calibr already is talking to other San Diego institutions about possible collaborations, but he emphasized that the institute is agnostic to location. This sets Calibr apart from **Pfizer Inc.**'s Global Centers for Therapeutic Innovation, which are performing similar collaborative drug discovery and development activities specifically tied to institutions in their immediate vicinity.³ Pfizer's centers also act as a direct arm of the pharma, in contrast to Calibr's relative independence from Merck.

The independent, not-for-profit status and exclusive focus on outside collaboration further distinguishes Calibr from the drug discovery mission of the **Genomics Institute of the Novartis Research Foundation** (GNF), where Schultz was director from its founding in 1999 until 2010. GNF has a broad mandate to develop and apply new technologies to discover medicines in areas of unmet medical need, and although the institute also engages in outside collaborations, it pursues a number of its own in-house basic discovery programs alongside its translational efforts.

Schaeffer told *SciBX* Calibr is a departure from Merck's early stage academic partnerships. "Our existing major, early stage collaborations

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Greg Wiederrecht, VP and head of external scientific affairs at Merck, told *SciBX* that 35% of major licensing deals executed by

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Merck each year are with academic institutions, and the company does 50 such deals each year. However, he added that in 2011 the company did 277 unannounced, smaller,

IP-generating research collaborations “that span the gamut from no-cost risk share to less than \$500,000” in costs to Merck.

He added that if other transactions including fee-for-service work or those done by other Merck divisions are included, “overall, our interactions with academia number in the thousands each year.”

Schaeffer emphasized that although Merck has the first option to license findings from Calibr, it is not interested in restricting the institute’s development efforts in any therapeutic areas. “We want to use this institute to look at new and innovative early stage projects. If Merck is not interested in licensing a project when it reaches preclinical proof of concept, it may become interesting to venture capitalists, and perhaps even Merck’s venture fund, and we would be in a position to follow the

work closely as it progresses.”

Last September, Merck launched its Merck Research Ventures Fund with \$250 million.

Schaeffer added that projects at Calibr are expected to predominantly originate in academic labs, although there may also be instances of interactions between the institute and small biotechs.

Schultz said that for the time being Calibr is dependent on Merck funding, but the institute will later consider seeking outside funding from federal and state grants and from disease foundations.

He added that the institute is in lease negotiations and has purchased equipment that is ready for move in, and he noted that Calibr has already received inquiries for partnerships through its website.

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3. Cain, C. *SciBX* 3(46); doi:10.1038/scibx.2010.137

COMPANIES AND INSTITUTIONS MENTIONED

5AM Ventures, Menlo Park, Calif.

Ambix Inc., La Jolla, Calif.

California Institute for Biomedical Research, San Diego, Calif.

Genomics Institute of the Novartis Research Foundation, San Diego, Calif.

Harvard Medical School, Boston, Mass.

Merck & Co. Inc. (NYSE:MRK), Whitehouse Station, N.J.

Pfizer Inc. (NYSE:PFE), New York, N.Y.

The Scripps Research Institute, La Jolla, Calif.